IN THE CLAIMS

1.   (original)   A storage system comprising:

a disk controller for performing control to transfer data sent from a host device;

a plurality of disk drives for storing data sent from said disk controller; and

a switch, connected with said disk controller and said disk drives, for selecting a disk drive from said disk drives, and causing data sent from said disk controller to be transferred to said disk drive,

wherein said switch comprises:

a protocol controller for controlling a protocol,

a detector for detecting an ID number of a transfer destination disk drive for the data sent from said disk controller,

an ID number reporter for reporting ID numbers of said disk drives, and

a controller for storing the ID numbers reported from said ID number reporter, and transferring data sent from said disk controller to said transfer destination disk drive having said ID number detected by said detector.

2.   (original)   The storage device according to Claim 1, wherein said switch dynamically switches between said disk controller and said disk drives.

3.   (original)   The storage device according to Claim 1, wherein said switch receives from a first disk drive a signal showing that said first disk drive has

entered a readable/writable state, and transfers data to said first disk drive which has entered a readable/writable state.

4. (original) The storage device according to Claim 3, wherein said switch receives from a second disk drive a signal showing that said second disk drive has entered a readable/writable state, and transfers data to said second disk drive which has entered a readable/writable state.

5. (original) The storage device according to Claim 4, wherein said switch dynamically switches between said disk controller and said disk drives.

6. (original) The storage device according to Claim 1, wherein a plurality of said disk controllers is provided, and

wherein said switch is connected with each of said disk controllers.

7. (original) The storage device according to Claim 6, wherein said switch dynamically switches between said disk controllers and said disk drives.

8. (original) The storage device according to Claim 6, wherein said switch establishes connections between said disk controllers and said disk drives.

9. (original) The storage device according to Claim 1, wherein said disk drives connected with said switch forms an Arbitrated Loop, and

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wherein said switch connects with said Arbitrated Loop.

10. (original) The storage device according to Claim 9, wherein said switch dynamically switches between said disk controller and said disk drives.

11. (original) The storage device according to Claim 9, wherein said Arbitrated Loop comprises:

a switch connector connecting with said switch;

a disk drive connector for connecting with said disk drives,

wherein said disk drive connector is provided for each of said disk drives; and

a loop bypass circuit, provided for each of said disk drives, for permitting removal or addition of disk drives in response to signals output from said disk drives.

12. (original) The storage device according to Claim 1, wherein said disk drives connected to said switch constitutes a plurality of Arbitrated Loops, and wherein said switch connects with said Arbitrated Loops.

13. (original) The storage device according to Claim 12, wherein said switch dynamically switches between said disk controller and said disk drives.

14. (original) The storage device according to Claim 12, wherein each Arbitrated Loop comprises:

a switch connector connecting with said switch;

a disk drive connector for connecting with said disk drives,

wherein said disk drive connector is provided for each of said disk drives; and

a loop bypass circuit, provided for each of said disk drives, for permitting

removal or addition of disk drives in response to signals output from said disk drives.

15.   (original)   The storage device according to Claim 1, wherein a plurality of said switches is provided, and

wherein each of said switches is connected with a plurality of disk drives.

16.   (original)   The storage device according to Claim 15, wherein each of said switches dynamically switches between said disk controller and said disk drives.

17.   (original)   The storage device according to Claim 15, wherein said disk drives connected to said switches constitute a plurality of Arbitrated Loops, and

wherein said switches connect said Arbitrated Loops.

18.   (original)   The storage device according to Claim 17, wherein each of said switches dynamically switches between said disk controller and said disk drives.

19.   (original)   The storage device according to Claim 17, wherein each of said Arbitrated Loop comprises:

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a switch connector connecting with said switches;

a disk drive connector for connecting with said disk drives,

wherein said disk drive connector is provided for each of said disk drives; and

a loop bypass circuit, provided for each of said disk drives, for permitting

removal or addition of disk drives in response to signals output from said disk drives.

20.   (original)   The disk subsystem according to Claim 17, wherein each

of said Arbitrated Loops can be connected to the same number of disk drives.

21.   (original)   The storage device according to Claim 15, wherein said

disk drives connected with each of said switches forms a plurality of Arbitrated

Loops, and

wherein each of said switches is connected with said Arbitrated Loops.

22.   (original)   The storage device according to Claim 21, wherein each

of said switches dynamically switches between said disk controller and said disk

drives.

23.   (original)   The storage device according to Claim 21, wherein each

of said Arbitrated Loops comprises:

a switch connector connecting with said switches;

a disk drive connector for connecting with said disk drives,

wherein said disk drive connector is provided for each of said disk drives; and

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a loop bypass circuit, provided for each of said disk drives, for permitting

removal or addition of disk drives in response to signals output from said disk drives.

24.   (original)   The disk subsystem according to Claim 21 wherein each

of said Arbitrated Loops can be connected to the same number of disk drives.

25.   (original)   A storage device comprising:

a disk controller which includes:

a host interface controller for controlling the input/output of data from/to host

devices,

a cache memory for temporarily storing data received by said host interface

controller, and

a plurality of disk drive interface controllers for transferring data received by

said host interface controller;

a plurality of disk drives for storing data sent from said disk drive interface

controllers; and

a switch for connecting said disk drive interface controllers and said plurality

of disk drives, selecting a destination disk drive from said disk drives, and

transferring data sent from a disk drive interface controller to said selected

destination disk drive,

wherein said switch comprises:

a detector for detecting an ID number of said selected transfer destination

disk drive for data sent from said disk drive interface controller,

an ID number reporter for reporting ID numbers of said disk drives, and

a controller for transferring data sent from said disk drive interface controller

to said selected transfer destination disk drive based on the ID number reported from

said ID number reporter and the ID number detected by said detector.

26.   (original)   The storage device according to Claim 25, wherein said

switch dynamically switches between said disk drive interface controllers and said

disk drives.

27.   (original)   The storage device according to Claim 25, wherein said

switch receives from a first disk drive a signal showing that said first disk drive has

entered a readable/writable state, and transfers data to said first disk drive which has

entered a readable/writable state.

28.   (original)   The storage device according to Claim 26, wherein said

switch receives from a second disk drive a signal showing that said second disk

drive has entered a readable/writable state, and transfers data to said second disk

drive which has entered a readable/writable state.

29.   (original)   The storage device according to Claim 28, wherein said

switch dynamically switches between said disk drive interface controllers and said

disk drives.

30. (original) The storage device according to Claim 25, wherein a plurality of said disk controllers is provided, and

wherein said switch is connected with each of said disk controllers.

31. (original) The storage device according to Claim 30, wherein said switch dynamically switches between said disk controllers and said disk drives.

32. (original) The storage device according to Claim 30, wherein said switch establishes connections between said disk controllers and said disk drives.

33. (original) The storage device according to Claim 25, wherein said disk drives connected with said switch forms an Arbitrated Loop, and

wherein said switch connects with said Arbitrated Loop.

34. (original) The storage device according to Claim 33, wherein said switch dynamically switches between said disk drive interface controllers and said disk drives.

35. (original) The storage device according to Claim 33, wherein said Arbitrated Loop comprises:

a switch connector connecting with said switch;

a disk drive connector for connecting with said disk drives,

wherein said disk drive connector is provided for each of said disk drives; and

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a loop bypass circuit, provided for each of said disk drives, for permitting removal or addition of disk drives in response to signals output from said disk drives.

36.   (original)   The storage device according to Claim 25, wherein said disk drives connected to said switch constitutes a plurality of Arbitrated Loops, and wherein said switch connects with said Arbitrated Loops.

37.   (original)   The storage device according to Claim 36, wherein said switch dynamically switches between said disk drive interface controllers and said disk drives.

38.   (original)   The storage device according to Claim 36, wherein each Arbitrated Loop comprises:

a switch connector connecting with said switch;

a disk drive connector for connecting with said disk drives,

wherein said disk drive connector is provided for each of said disk drives; and

a loop bypass circuit, provided for each of said disk drives, for permitting removal or addition of disk drives in response to signals output from said disk drives.

39.   (original)   The storage device according to Claim 25, wherein a plurality of said switches is provided, and

wherein each of said switches is connected with a plurality of disk drives.

40.   (original)   The storage device according to Claim 39, wherein each of said switches dynamically switches between said disk drive interface controllers and said disk drives.

41.   (original)   The storage device according to Claim 39, wherein said disk drives connected to said switches constitute a plurality of Arbitrated Loops, and wherein said switches connect said Arbitrated Loops.

42.   (original)   The storage device according to Claim 41, wherein each of said switches dynamically switches between said disk drive interface controllers and said disk drives.

43.   (original)   The storage device according to Claim 41, wherein each of said Arbitrated Loop comprises:

a switch connector connecting with said switches;

a disk drive connector for connecting with said disk drives,

wherein said disk drive connector is provided for each of said disk drives; and

a loop bypass circuit, provided for each of said disk drives, for permitting removal or addition of disk drives in response to signals output from said disk drives.

44.   (original)   The disk subsystem according to Claim 41, wherein each of said Arbitrated Loops can be connected to the same number of disk drives.

45. (original) The storage device according to Claim 39, wherein said disk drives connected with each of said switches forms a plurality of Arbitrated Loops, and

wherein each of said switches is connected with said Arbitrated Loops.

46. (original) The storage device according to Claim 45, wherein each of said switches dynamically switches between said disk drive interface controllers and said disk drives.

47. (original) The storage device according to Claim 45, wherein each of said Arbitrated Loops comprises:

a switch connector connecting with said switches;

a disk drive connector for connecting with said disk drives,

wherein said disk drive connector is provided for each of said disk drives; and

a loop bypass circuit, provided for each of said disk drives, for permitting removal or addition of disk drives in response to signals output from said disk drives.

48. (original) The disk subsystem according to Claim 45 wherein each of said Arbitrated Loops can be connected to the same number of disk drives.

49. (new): A storage system comprising:

a disk controller which controls data transfer sent from a host via a network;

a plurality of disk drives which store data sent from said host via said disk controller; and

a switch, coupled with said disk controller and said disk drives, which selects one of said disk drives, and switches data sent from host through said disk controller to be transferred to said disk drive,

wherein said switch detects an ID number of a transfer destination disk drive in the data from said disk controller, reports ID numbers of said disk drives, and controls switch operation between said disk controller and said disk drives in accordance with a detected ID number and reported ID numbers.

50.   (new): A storage system comprising:

a disk controller which controls data transfer sent from a host via a network;

a plurality of disk drives which store data sent from said host via said disk controller; and

a switch, coupled with said disk controller and said disk drives, which selects one of said disk drives, and switches data sent from said host through said disk controller to be transferred to said disk drive,

wherein said switch comprises:

a detector which detects an ID number of a transfer destination disk drive in the data from said disk controller,

an ID number reporter for reporting ID numbers of said disk drives, and

a controller which controls switch operation between said disk controller and said disk drives in accordance with a detected ID number by said detector and a reported ID number from said ID number reporter.